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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/762,077	06/03/2002	Edward A. Johnson	56326-032	7876

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EXAMINER

JOHNSTON, PHILLIP A

ART UNIT	PAPER NUMBER
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2881

DATE MAILED: 03/29/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/762,077

Applicant(s)

JOHNSON ET AL.

Examiner

Phillip A Johnston

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-29 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-29 is/are rejected.
- 7) ☒ Claim(s) 22 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 03 June 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>3-16-2004</u> . | 6) <input type="checkbox"/> Other: ____. |

Detailed Action

Claims Objection

1. Claim 22 is objected to because of the following informalities: Claim 22 reads "A gas detector according to claim xx4", which should be "A gas detector according to claim 19". Appropriate correction is required.

Claims Rejection – 35 U.S.C. 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

3. Claims 1, 28, and 29, are rejected under 35 U.S.C. 102(e) as being anticipated by U.S. Patent No. 6,297,511, to Syllaiois.

Syllaiois (511) clearly discloses;

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(a) A planar emitter/detector having a $\Delta\lambda/\lambda < 0.1$. Syllaos (511) discloses in one embodiment an input power of approximately one-tenth of a watt (W) of input power, a radiant power of approximately two mmW/cm² is achieved on a narrow two-tenths of a micrometer (μm) spectral band. See Column 6, line 18-22.

Also that one embodiment of the present invention is operable to emit IR radiation with a wavelength of three to fourteen micrometers (μm). See Column 2, line 5-7. See Column 2, line 5-7; Column 6, line 18-27.

As a result $\Delta\lambda/\lambda = 0.2 \mu\text{m}/3 \mu\text{m} = 0.066$, as recited in Claims 1 and 28.

(b) An emitter/detector array having a $\Delta\lambda/\lambda < 0.1$. See Column 6, line 49-67; and Column 7, line 1-7.

Claims Rejection – 35 U.S.C. 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which the subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5,864,144 to Laine, in view of Syllaos, U.S. Patent No. 6,297,511.

Laine (144) discloses the following;

(a) An emitter with a planar resistive foil element. See Column 4, line 1-32.

(b) An emitter having a broad spectral range. See Column 4, line 1-32.

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(c) Emission spectral width determined by surface features, as recited in Claims 3,4,6, and 8. See Column 10, line 14-67; and Column 11, line 1-10.

(d) Etching the element. See Column 4, line 1-32.

(e) The use of semiconductor emitter materials. See Column 11, line 3-21.

Laine (144) as applied above fails to teach the use of a planar emitter/detector having a $\Delta\lambda/\lambda < 0.1$, as recited in Claim 1. However, Syllaos (511) discloses above a planar emitter/detector having a $\Delta\lambda/\lambda < 0.1$. See Column 2, line 5-7; Column 6, line 18-27.

Therefore it would have been obvious to one of ordinary skill in the art that the emitter of Laine (144) can be modified to use the emitter/detector of Syllaos (511), to emit IR radiation over a broad spectral band, which can be used in gas or liquid sensors and various other spectroscopic applications.

6. Claims 15-27 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5,584,557 to Alexay, in view of Syllaos, U.S. Patent No. 6,297,511.

Alexay (557) discloses;

(a) An emitter located within a gas cell having two reflectors to provide multiple paths to and from the emitter and detector, while passing through a gas test region, as recited in Claims 15,19, and 23. see Column 4, line 18-67; and Column 5, line 1-4.

(b) A computer for determining the concentration of components for the sample being analyzed. See Column 6, line 19-28.

Alexay (557) as applied above fails to teach the use of a planar emitter/detector having a $\Delta\lambda/\lambda < 0.1$, as recited in Claims 15 and 23. However, Syllaos (511) discloses

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above a planar emitter/detector having a $\Delta\lambda/\lambda < 0.1$. See Column 2, line 5-7; Column 6, line 18-27.

Therefore it would have been obvious to one of ordinary skill in the art that the gas cell of Alexay (557) can be modified to use the emitter/detector of Syllaos (511), to emit IR radiation over a broad spectral band, which can be used in gas or liquid sensors and various other spectroscopic applications.


Conclusion

7. Any inquiry concerning this communication or earlier communications should be directed to Phillip Johnston whose telephone number is (571) 272-2475. The examiner can normally be reached on Monday-Friday from 7:30 am to 4:00 pm. If attempts to reach the examiner by telephone are unsuccessful, the examiners supervisor John Lee can be reached at (571) 272-2477. The fax phone numbers are (703) 872-9318 for regular response activity, and (703) 872-9319 for after-final responses. In addition the customer service fax number is (703) 872- 9317.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703 308 0956.

PJ

March 16, 2004


JOHN D. LEE
SUPERVISOR/PATENT EXAMINER
TECHNOLOGY CENTER 2800